

# EVALUATION OF FIRST-YEAR FLORIDA MPO TRANSIT CAPACITY AND QUALITY OF SERVICE REPORTS

## PROBLEM STATEMENT

The Florida Department of Transportation (FDOT) is interested in the application of the new transit quality of service framework as presented in the First Edition of the Transit Capacity and Quality of Service Manual (TCQSM), a Transportation Research Board publication designed to be a transit companion to the Highway Capacity Manual. This framework is seen as a tool to augment the systematic evaluation of transit systems performed by FDOT. The goal is to provide a benchmark evaluation of transit systems within a specific time period, such that the performance of the systems can be assessed from the users' point of view. FDOT required that the Florida Metropolitan Planning Organizations (MPOs), where fixed-route transit service operates, coordinate an effort to evaluate those services within their regions with respect to the six transit service measures identified in the TCQSM. The experiences of Florida MPOs in applying this framework would be useful for improving the process for future efforts.

## OBJECTIVES

The objective of this project was to collect, compile, and evaluate the first-time Transit Capacity and Quality of Service (TQOS) reports from Florida's MPOs in order to make a preliminary assessment of the performance of the transit systems in terms of the six measures found in the TCQSM. The results of the individual transit systems were aggregated to provide a statewide picture of the level of transit capacity and quality of service in Florida in terms of these new measures (Table 1). Representatives of the participating MPOs and transit agencies were contacted to discuss their individual experiences with the evaluation.

**Table 1: TQOS Measures**

Measure	Definition
Service Coverage	percent of transit-supportive area served
Service Frequency	headway, in minutes
Hours of Service	hours transit service is available per day
Travel Time (transit v. auto)	travel time difference, in minutes, between transit and auto for the same O-D pair
Passenger Loading	degree of vehicle crowding; space available per passenger
Reliability	comparison of actual versus scheduled arrival times

## FINDINGS

The first-year Transit Capacity and Quality of Service Evaluation proved to be a valuable learning experience for all involved, including participating MPOs and transit systems, FDOT, and the consultants and researchers who assisted in the effort. While the final report for this

project contains a detailed presentation of the statewide TQOS results, significant emphasis is placed on the process of the evaluation itself, since these first-time results are not as robust as those that would be obtained in future efforts when those involved gain a greater understanding of the process and methodologies.

The analysis of the reports gathered from participating Florida MPOs showed that all but one of the MPOs submitted a report, and a majority of those that did conducted the evaluation according to the provided instructions. Any issues or problems that were found in the reports were clarified and discussed during the participant interviews. According to the participants, the major issues that arose during the evaluation can be grouped into two categories: (1) those dealing with the overall process and (2) those involving the specifics of the data collection and reporting methodologies. Concerns with the overall process included TCQSM training, costs of conducting the evaluation, the partnership and breakdown of evaluation responsibilities between the MPOs and transit systems, the transit agency's public image, and a lack of a clear understanding of the general purpose of the evaluation (this last item was remedied through the interview process as well as through presentations by FDOT of the preliminary results). Specific concerns with the methodology included the selection of trip pairs for analysis, the time frame of analysis, field data collection and sample sizes, the comparability of travel times between auto and transit, issues with the spreadsheet provided to the agencies for data reporting, and the thresholds used in the "A" through "F" scoring system.

## **CONCLUSIONS**

This first-year evaluation compiled the analyses provided by the participating MPOs and provided an assessment of the performance of the transit systems. In addition, the process used by the MPOs and transit systems to evaluate their services was analyzed, and recommended refinements to the process for future years were presented based on the experiences of the MPOs.

Recommendations for the overall process included the recognition that (1) the MPO is responsible for and must take the lead in conducting the evaluation, providing additional training opportunities, ensuring timely preparation and allocation of resources by the participants to keep costs of the evaluation minimal, and that (2) the evaluation should be conducted as part of the Long Range Transportation Plan Update process, which occurs every three years where there exist air quality problems and every five years elsewhere, rather than on an annual basis. Researchers also addressed specific issues regarding the evaluation methodology, which included the following:

- recommendations to revisit and reselect major activity centers for each analysis
- clarifications of how trip pairs are selected for analysis and how they should be evaluated
- suggestions regarding the time frame for analysis (including time of year, length of time, appropriate days, and time of day).

The first-year evaluation of the Florida MPO Transit Capacity and Quality of Service reports provided FDOT with an overall assessment of the state's transit performance in terms of the six measures included in the TCQSM. More importantly, this report evaluated the process of the first known statewide implementation of these measures and summarized the experiences of those involved. The results of this project serve as a model for other areas in the country interested in applying the customer-oriented assessment of transit based on the TCQSM.

## **BENEFITS**

This study provided FDOT with an analysis of the results of the first assessment of transit service in Florida using the newly developed Transit Capacity and Quality of Service measures. Although some of the results were not surprising, others provided important information about the nature and the extent of transit service problems in Florida. This information has helped FDOT to decide where to focus training funds, and new transit operations courses have been added to the list of training available from the Department. Further, using consistent and uniform measures, transit providers can determine where to make improvements to systems used by the traveling public, which may encourage more citizens to utilize public transportation services.

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